

Claims

1. A cooling apparatus comprising an insulated chiller or freezer box, accessible by a door, and means for cooling the interior of the box, said means comprising a heat exchanger including a tube evaporator system, wherein a first part of the system is located inside of the box and a second part of which is located outside of the box, wherein said system comprises a plurality of tubes connected to provide a pathway for a refrigerant which in use is circulated between said first part and said second part of said system; characterised in that:
 - 10 the metal tubes of the system which in use contact refrigerant which is at a temperature of -5 to -50°C are connected by lap joints sealed in a gas tight manner by a solder which has a melting temperature of from 180 to 300°C.
2. A method for manufacturing cooling apparatus comprising an insulated chiller or freezer box, accessible by a door, and means for cooling the interior of the box, said means comprising a heat exchanger including a tube evaporator system, wherein a first part of the system is located inside of the box and a second part of which is located outside of the box, wherein said system comprises a plurality of tubes connected to provide a pathway for a refrigerant which in use is circulated between said first part and said second part of said system; the method being characterised in that:
 - 15 the metal tubes of the system which in use contact refrigerant which is at a temperature of -5 to -50°C are joined by a process comprising:
 - 20 preparing a lap joint between two of said tubes and sealing said tubes in a gas tight manner with a solder which has a melting temperature of from 180 to 300°C.
- 25 3. A cooling apparatus as claimed in claim 1 or a method as claimed in claim 2, wherein the solder comprises at least 80% by wt tin.
- 30 4. A cooling apparatus as claimed in claim 1 or a method as claimed in claim 2, wherein the solder comprises at least 95% by wt tin.
5. A cooling apparatus as claimed in claim 1 or a method as claimed in claim 2, wherein the solder melts in the range of from 200 to 250°C.

6. A cooling apparatus as claimed in claim 1 or a method as claimed in claim 2, wherein the solder melts in the range of 220 to 240°C.
- 5 7. A cooling apparatus as claimed in claim 1 or a method as claimed in claim 2, wherein the solder comprises at least 80% by wt tin and melts in the range 200 to 250°C.